IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re:	Application No. 09/842,346
Filed:	April 25, 2001
Applicants:	Robert Roy KELLER, JR. et al.
Title:	SIMPLIFIED METHOD AND APPARATUS FOR PROGRAMMING A UNIVERSAL TRANSMITTER
Art Unit:	2612
Examiner:	Vernal U. BROWN
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Commissioner for Patents
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SUBSTITUTE SECTION FOR APPEAL BRIEF

Sir:

In Office Communications dated March 2, 2009 and March 6, 2009 as entered in the above-captioned matter, the previously submitted Appeal Brief was faulted for not containing a concise explanation of the subject matter defined in each of the independent claims involved in the Appeal. The Applicant now offers a Substitute Summary of Claimed Subject Matter Section for consideration with the Appeal Brief previously filed on March 28, 2006. The Applicant has included a separate heading in the "Summary of Claimed Subject Matter" section of the brief for each independent claim.

(5) Summary of Claimed Subject Matter[1]

The Applicants' system provides approaches for programming a universal transmitter that is used to move barriers (e.g., doors) in a moveable barrier operator system. The illustration shown below is FIG. 2 from the application. As can be seen in that illustration, a transmitter 30 includes signal configuration input (switches) 52, user input (transmit initiation keys) 50, a controller 54, a memory 56, and transmitter circuitry 58.

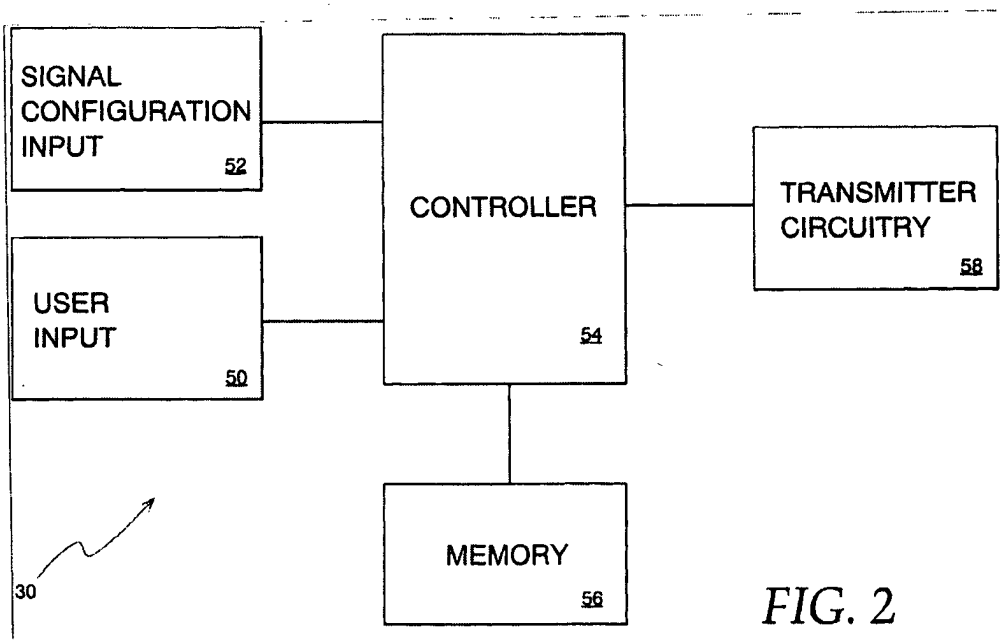

FIG. 2

In the Applicants' system, a signal is transmitted from the transmitter 30 and used to actuate a barrier operator. The signal has a particular configuration. For example, the signal may be transmitted at a particular frequency or use a particular modulation scheme. In order to select this signal configuration, the signal configuration switches 52 are manually set by the

[1] The citations provided to the specification are merely exemplary and are not intended to be an exhaustive list of the relevant supporting citations.

user. In one example, the signal configuration switches 52 may comprise a plurality of multi-position switches that allow the user to manually select a configuration for a signal to be transmitted. By placing the switches in particular settings and operating in a learn mode, a particular code and configuration may be associated with one of the transmit initiation keys. (See, for example, page 9, lines 14-22 of the Specification). The transmit initiation keys 50 can later be used to enable transmission of a code earlier defined by the configuration switches 52. The Applicants' system is not limited to setting only one signal configuration for the transmitter 30. In this regard, each of the plurality of transmit initiation keys 50 may be associated with a particular configuration. During an operate mode, when a particular transmit initiation key is pressed, the code previously associated with that transmit initiation key (i.e., set by some combination of the signal configuration switches 52) is transmitted. (Specification, page 10, lines 7-26).

In one specific example of the operation of the Applicants' system, learn and non-learn (operate) modes are used. The controller 54 determines whether the transmitter has been placed into a learn mode. When in a learn mode, a user sets the signal configuration switches 52 in a selected pattern and presses a selected one of the transmit initiation keys 50. The controller 54 reads the settings of the signal configuration switches 52 and stores the settings (e.g., as a code) in the memory 56 for future recall. The memory location where the signal configuration settings are stored is associated with the selected transmit initiation key 50 that was pressed (see Specification, page 12, lines 18-27).

On the other hand, when the controller 54 determines that the transmitter 30 is in operate mode, and a transmit initiation key 50 is pressed, the controller 54 retrieves the signal configuration (e.g., the code) stored at the location on the memory 56 that is associated with the depressed transmit initiation key 50. The controller 54 then interprets the signal configuration (e.g., the code) retrieved from the location in the memory 56 and outputs the

configuration (e.g., the code) at the appropriate modulation or using any other conditions defined by the configuration (see page 14, lines 9-20 of the Specification).

Consequently, in Applicants' system, two separate and distinct types of switches are provided: (1) signal configuration switches (element 52) that define a signal configuration, and (2) transmit initiation keys that are associated with a configuration that has already been defined by the signal configuration switches 52. In so doing, a user can transmit a configuration (e.g., a particular code) with the touch of a single transmit initiation key.

Another specific example of Applicants' approaches is illustrated below with respect to FIGs. 3a and 3b from the application as originally filed. These figures are reproduced below for the convenience of the reader. It can be seen in this example that the signal configuration switches 52 comprise DIP switch groups S1 and S2. In particular, switches groups S1 and S2 provide sixteen switches with which the user is able to identify a signal configuration (page 11, lines 7-10 of Specification).

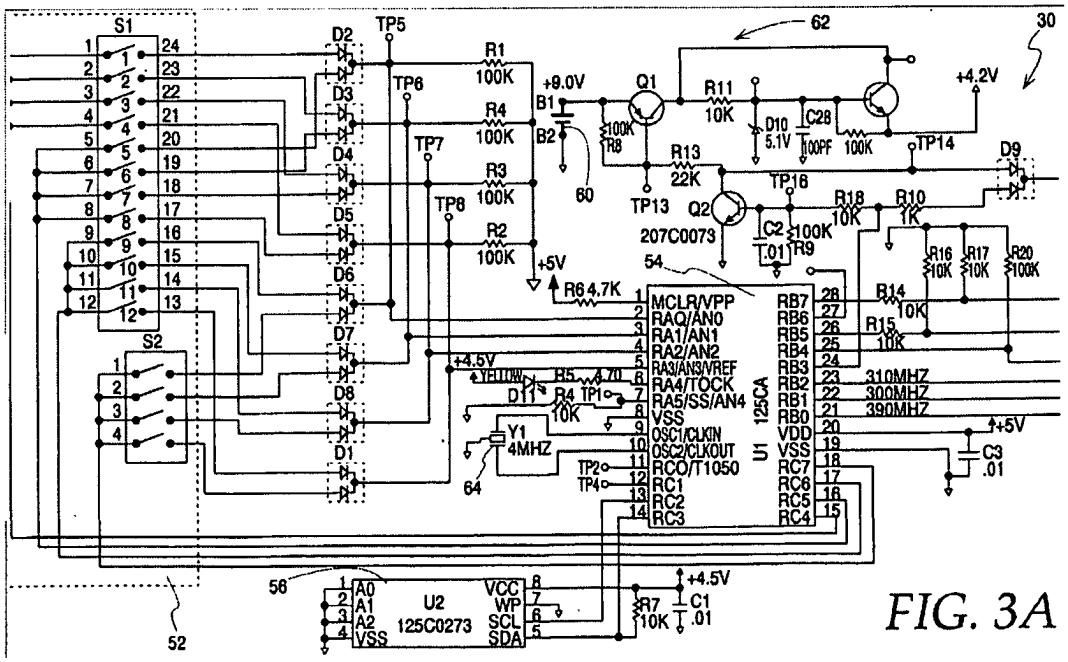

FIG. 3A

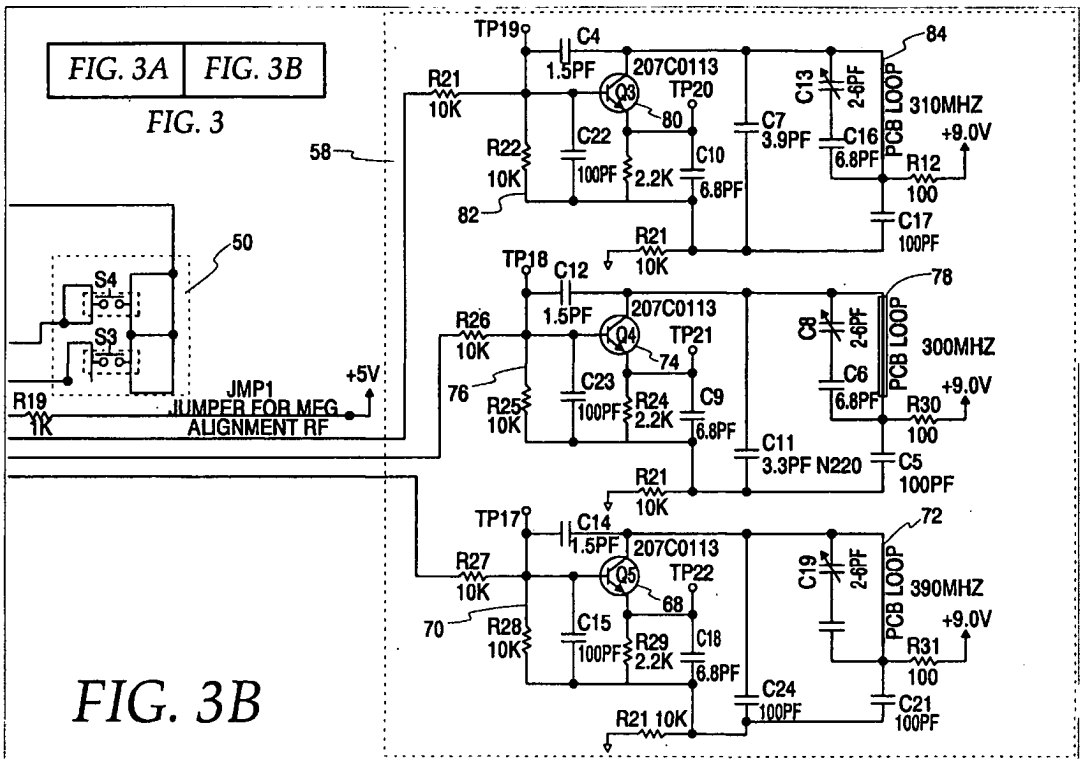

FIG. 3B

A two button transmitter is provided in which one signal configuration can be stored and associated with a transmit initiation key S3 and another signal configuration setting can be stored and associated with a transmit initiation key S4. In other examples, additional transmit initiation keys may be provided to allow for the storing of the additional settings (page 13, lines 16-20 of Specification).

As with the system of FIG. 3, the signal configuration switches S1 and S2 perform functions entirely different from the transmit initiation keys S3 and S4. More specifically, the DIP switches in groups S1 and S2 are used to set signal configurations (e.g., codes), which configurations are stored during learn mode (see Specification, page 12, lines 18-27). One such configuration can be associated with the key S3 and another configuration associated with the

key S4. A user wishing to recall a particular configuration needs only push the key S3 or S4 to recall the configuration associated with the particular switch and transmit the associated code (see page 14, lines 17-20).

There are five independent claims pending in this appeal (claims 1, 8, 9, 10, and 16). Claims 3-7 depend from claim 1. Claims 11-15 depend from claim 10. Claims 17-21 depend from claim 16.[2]

A. Independent Apparatus Claim 1

The transmitter as presently claimed is capable of transmitting security codes at a plurality of modulations and frequencies. The transmitter comprises a plurality of manipulatable signal configuration switches. The signal configuration switches are adjusted by an operator to define signal configuration settings for transmitter signals. The transmitter also comprises a plurality of user manipulatable transmit initiation keys and a controller responsive to the signal configuration switches during a learn mode for storing the signal configurations defined by the signal configuration switches in a memory location in association with selected ones of the user manipulatable transmit initiation keys. The transmitter further comprises an apparatus responsive to user interaction with each transmit initiation key during an operate mode for retrieving the signal configuration stored in association therewith. The transmitter additionally comprises transmitter circuitry for transmitting the retrieved signal configuration received from the controller at a predetermined frequency.

For convenience to the reader, independent claim 1 has been mapped below with the relevant supporting citations to the specification.

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[2] None of the claims subject to the present appeal include any means-plus-function or step-plus-function claim recitations. Accordingly, as per 37 C.F.R. § 41.37(c)(1), there are no such recitations to be identified and mapped in a corresponding manner to the specification and drawings.

Claim 1	Specification
A transmitter for transmitting security codes at a plurality of modulations and frequencies comprising:	
a plurality user manipulatable signal configuration switches which are adjusted by an operator to define signal configuration settings for transmitter signals,	Page 6, lines 7-9; page 9, lines 17-21; page 10 line 28-page 11, line 1; page 11, line 14-page 12, line 4; Figs. 2 and 3a.
the signal configuration settings comprising at least a code to be transmitted by the transmitter;	Page 5, lines 5-7; page 6, lines 7-9; page 9, lines 20-21; page 11, line 20-page 12, line 6; Fig. 3a
a plurality of user manipulatable transmit initiation keys;	Page 6, lines 13-14; page 9, lines 13-17; page 10, line 28; Fig. 3b
a controller responsive to the signal configuration switches during a learn mode for storing the signal configurations defined by the signal configuration switches in a memory location in association with selected ones of the user manipulatable transmit initiation keys;	Page 6, lines 9-12; page 6, line 28-page 7, line 3; page 9, lines 22-26; page 11, line 1; page 12, lines 18-26; Figs. 2, 3a, and 3b
apparatus responsive to user interaction with each transmit initiation key during an operate mode for retrieving the signal configuration stored in association therewith; and	Page 6, lines 9-12, page 7, lines 11-13, page 10, lines 6-8; page 11, line 1; page 14, lines 8-19; Figs. 2, 3a, and 3b
transmitter circuitry for transmitting the retrieved signal configuration received from the controller at a predetermined frequency.	Page 6, lines 12-13, page 7, lines 13-17, page 10, lines 12-14; page 11, line 1; Figs. 2, 3a, and 3b

B. Claims 3-7 Depend From Claim 1

In one aspect, the signal configuration switches comprise a multi-position switch for defining a type of transmitter that is to be emulated and a multi-position switch for defining a

code to be transmitted by the transmitter (claim 3)[3]. In another aspect, the transmit initiation keys comprise a first switch which identifies to the controller the location of a first signal configuration to be retrieved and transmitted and a second switch identifying to the controller the location of a second signal configuration to be retrieved and transmitted (claim 4)[4]. In one aspect, the transmitter circuitry can comprise a single transmitter circuit for selectively transmitting a signal at one of a plurality of different frequencies (claim 5)[5] and comprise a transmitter circuit which can be selected to operate at frequencies of 300 MHZ, 310 MHZ and 390 MHZ (claim 6)[6]. In another aspect, the transmitter circuit can also comprise a first transmitter circuit for transmitting at a first predetermined frequency and a second transmitter circuit for transmitting at a second predetermined frequency (claim 7)[7].

C. Independent Method Claim 8

A method of programming a universal transmitter is provided; the transmitter comprising a plurality of user manipulatable signal configuration switches. The method comprises setting the signal configuration switches to a first set of positions which define a first signal configuration. The first signal configuration includes a first code to be transmitted by the transmitter. The first signal configuration defined by the signal configuration switches is stored into a first memory location. The method comprises setting the signal configuration switches to a second set of positions defining a second signal configuration. The second signal configuration includes a second code to be transmitted by the transmitter. The second signal configuration defined by the signal configuration switches is stored into a second memory location. Additionally, the method comprises associating one of a plurality of transmit

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[3] Specification at page 11, lines 14-15 and 25-26; Fig. 3a.
[4] Specification at page 14, lines 16-19.
[5] Specification at page 10, lines 12-13.
[6] Specification at page 10, lines 14-22.
[7] Specification at page 10, lines 12-14.

switches with each stored signal configuration. Furthermore, the method comprises detecting user interaction with one of the transmit switches and transmitting the stored signal configuration associated with the activated switch.

For convenience to the reader, independent claim 8 has been mapped below with the relevant supporting citations to the specification.

Claim 8	Specification
A method of programming a universal transmitter comprising a plurality of user manipulatable[8] signal configuration switches, the method comprising:	
setting the plurality of signal configuration switches to a first set of positions defining a first signal configuration including a first code to be transmitted by the transmitter;	Page 5, lines 13-16; page 9, lines 17-21; page 11, line 14-page 12, line 16
storing the first signal configuration defined by the signal configuration switches into a first memory location;	Page 5, lines 18-20; page 9, lines 22-26; page 12, line 17-page 13, line 7; Fig 4a
setting the plurality of signal configuration switches to a second set of positions defining a second signal configuration including a second code to be transmitted by the transmitter;	Page 5, lines 25-27; page 9, lines 17-21; page 11, line 14-page 12, line 16; page 13, lines 11-13
storing the second signal configuration defined by the signal configuration switches into a second memory location;	Page 5, line 28-Page 6, line 2; page 9, lines 22-27; page 13, lines 8-18; Fig. 4a

[8] The term "manipulatable" was previously presented and incorrectly spelled as "maniputable" due to a typographical error. Claim 8 is amended to correct this error in an Amendment After Final filed on the same day as this Substitute Section. Although the status of entry of the amendment is presently unknown, the term is addressed in this section as though the amendment has been entered.

Claim 8	Specification
associating one of a plurality of transmit switches with each stored signal configuration; and	Page 5, lines 16-17 and 27-28; page 12, line 26-page 13, line 6; page 13, lines 15-18; Fig. 4a
detecting user interaction with one of the plurality of transmit switches and transmitting the stored signal configuration associated therewith.	Page 5, lines 20-24; Page 6, lines 2-6; Page 14, lines 8-19; Fig. 4a

C. Independent Method Claim 9

A method of programming a transmitter is provided. The method comprises setting a signal configuration switch to a first set of positions which define a first signal configuration. The first signal configuration includes a first code to be transmitted by the transmitter. One of a plurality of transmit switches is selected to be associated with the first signal configuration. The first signal configuration is stored into a first memory location. The method further comprises setting the signal configuration switch input to a second set of positions defining a second signal configuration. The second signal configuration includes a second code to be transmitted by the transmitter. The second signal configuration defined by the signal configuration switches is stored into a second memory location. One of a plurality of transmit switches is selected to be associated with the second signal configuration. The second signal configuration is stored into a second memory location.

For convenience to the reader, independent claim 9 has been mapped below with the relevant supporting citations to the specification.

Claim 9	Specification
A method of programming a transmitter comprising:	
setting a signal configuration switch to a first set of positions defining a first signal configuration including a first code to be transmitted by the transmitter;	Page 5, lines 13-16; page 9, lines 17-21; page 11, line 14-page 12, line 16
selecting one of a plurality of transmit switches with which the first signal configuration is to be associated;	Page 5, lines 16-17 and 27-28; page 12, line 26-page 13, line 6; page 13, lines 15-18; Fig. 4a
storing the first signal configuration into a first memory location;	Page 5, lines 18-20; page 9, lines 22-26; page 12, line 17-page 13, line 7; Fig 4a
setting the signal configuration switch input to a second set of positions defining a second signal configuration including a second code to be transmitted by the transmitter;	Page 5, lines 25-27; page 9, lines 17-21; page 11, line 14-page 12, line 16; page 13, lines 11-13
selecting one of the plurality of transmit switches with which the second signal configuration is to be associated; and	Page 5, lines 27-28; page 12, line 26-page 13, line 6; page 13, lines 15-18; Fig. 4a
storing the second selected signal configuration into a second memory location.	Page 5, line 28-Page 6, line 2; page 9, lines 22-27; page 13, lines 8-18; Fig. 4a

D. Independent Method Claim 10

A method of programming a transmitter is provided; the transmitter including a plurality of multi-position signal configuration switches. The method comprises setting the multi-position signal configuration switches to a first set of positions which define a first signal configuration. The first signal configuration includes a first code to be transmitted

by the transmitter. One of a plurality of transmit switches with which the first signal configuration is to associated is selected during a first learn mode operation. The first signal configuration is stored into a first memory location. The method further comprises setting the signal configuration switches to a second set of positions defining a second signal configuration. The second signal configuration includes a second code to be transmitted by the transmitter. One of a plurality of transmit switches with which the second signal configuration is to associated is selected during a second learn mode operation. The second signal configuration is stored into a second memory location.

For convenience to the reader, independent claim 10 has been mapped below with the relevant supporting citations to the specification.

Claim 10	Specification
A method of programming a transmitter including a plurality of multi-position signal configuration switches comprising:	
setting the multi-position switches to a first set of positions defining a first signal configuration including a first code to be transmitted by the transmitter;	Page 5, lines 13-16; page 6, lines 7-9; page 9, lines 17-21; page 11, line 14-page 12, line 16
selecting one of a plurality of transmit switches during a first learn mode operation with which the first signal configuration is to be associated;	Page 5, lines 16-17 and 27-28; page 12, line 26-page 13, line 6; page 13, lines 15-18; Fig. 4a
storing the first signal configuration into a first memory location;	Page 5, lines 18-20; page 9, lines 22-26; page 12, line 17-page 13, line 7; Fig 4a
setting the multi-position switches to a second set of positions defining to a second signal configuration including a second code to be transmitted by the transmitter;	Page 5, lines 25-27; page 6, lines 7-9; page 9, lines 17-21; page 11, line 14-page 12, line 16; page 13, lines 11-13

Claim 10	Specification
selecting one of a plurality of transmit switches during a second learn mode operation with which the second signal configuration is to be associated; and	Page 5, lines 27-28; page 12, line 26-page 13, line 6; page 13, lines 15-18; Fig. 4a
storing the second signal configuration into a second memory location.	Page 5, line 28-Page 6, line 2; page 9, lines 22-27; page 13, lines 8-18; Fig. 4a

E. Claims 11-15 Depend From Claim 10

In one aspect, the method of programming the transmitter comprises depressing a predetermined transmit switch for a predetermined period of time in order to place the transmitter into a learn mode (claim 11)[9]. In another aspect, the method of programming the transmitter comprises identifying a type of transmitter to be emulated from the multi-position switch settings (claim 12)[10]. In another aspect, the method of programming the transmitter comprises a security code to be transmitted from the multi-position switch settings (claim 13)[11]. In another aspect, the method of programming the transmitter comprises identifying a modulation format at which a signal is to be transmitted from the multi-position switch settings (claim 14)[12]. In yet another aspect, the method of programming the transmitter comprises identifying a frequency at which a signal is to be transmitted from the multi-position switch settings (claim 15)[13].

F. Independent Method Claim 16

[9] Specification at page 12, lines 17-22.
[10] Specification at page 11, lines 20-24.
[11] Specification at page 11, lines 25-26.
[12] Specification at page 9, lines 16-22.
[13] Specification at page 9, lines 16-22.

A method of operating a code learning apparatus is provided; the apparatus having a plurality of signal configuration switches and comprising the following steps. The configuration switches are set in a combination to define a code signal configuration that is to be learned by the code learning apparatus. A learn mode of the code learning apparatus is activated. The identified code signal configuration is read from the configuration switches during the learn mode. The signal configuration read from the configuration switches during the learn mode is stored in a predetermined memory location.

For convenience to the reader, independent claim 16 has been mapped below with the relevant supporting citations to the specification.

Claim 16	Specification
A method of operating a code learning apparatus having a plurality of signal configuration switches, comprising steps of:	
- setting a combination of the configuration switches to define a code signal configuration including a code signal to be learned by the code learning apparatus;	Page 5, lines 13-16; page 6, lines 7-9; page 9, lines 17-21; page 11, line 14-page 12, line 16
- activating a learn mode of the code learning apparatus;	Page 5, lines 13-15; Page 9, lines 22-23; page 12, lines 17-22
- reading the identified code signal configuration from the configuration switches during the learn mode; and	Page 9, line 24 ; page 12, lines 17-18
- storing the code signal configuration read from the configuration switches in a predetermined memory location.	Page 5, lines 18-20, Page 9, lines 25-26; page 13, lines 3-6

G. Claims 17-21 Depend From Claim 16

In one aspect, the combination of configuration switch settings comprises a security code in the code learning apparatus of the claimed method (claim 17)[14]. In another aspect, the code signal configuration of the code learning apparatus in the claimed method identifies a security code and a code format in which the signal is to be transmitted (claim 18)[15]. In another aspect, the code learning apparatus comprises a plurality of transmit switches and the method further comprises the steps of identifying one of the transmit switches and storing a code signal configuration in a memory location associated with the identified transmit switch (claim 19)[16]. In yet another aspect, the code learning apparatus further comprises at least one transmitter and the method further comprises identifying one of the transmit switches during a transmit mode, reading the code signal configuration associated with the identified transmit switch from the memory and transmitting a signal in accordance with the code signal configuration read form the memory (claim 20)[17]. In another aspect, the at least one transmitter is an RF transmitter and the code signal configuration includes a type of transmitter, an RF frequency and a modulation format in which the signal is to be transmitted (claim 21)[18].

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[14] Specification at page 11, lines 25-26.

[15] Specification at page 9, lines 16-22.

[16] Specification at page 5, lines 16-24.

[17] Specification at page 5, lines 16-24 and page 9, lines 13-14.

[18] Specification at page 14, lines 23-25 and page 9, lines 17-21.

The Applicant respectfully submits that the Appeal Brief is now in sufficient condition and form to support the appeal.

Respectfully submitted,

FITCH, EVEN, TABIN & FLANNERY

Dated: April 2, 2009

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